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Department of Energy

Richland Operations Office

P.O. Box 550

Richland, Washington 99352

0041924

95-PCA-440

AUG 21 1995

Mr. Moses N. Jaraysi
200 Area Unit Supervisor
Nuclear Waste Program
State of Washington
Department of Ecology
1315 West Fourth Avenue
Kennewick, Washington 99336

Mr. Douglas R. Sherwood
Hanford Project Manager
U.S. Environmental Protection Agency
712 Swift Boulevard, Suite 5
Richland, Washington 99352

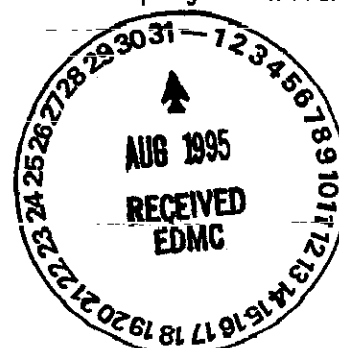
Dear Messrs. Jaraysi and Sherwood:

HANFORD FACILITY DANGEROUS WASTE PART A PERMIT APPLICATION, FORM 3s, FOR THE PLUTONIUM-URANIUM EXTRACTION (PUREX) PLANT, REVISION 6 (WA7890008967) (TSD: TS-2-6), AND FOR THE PUREX STORAGE TUNNELS, REVISION 3 (WA7890008967) (TSD: S-2-1)

Enclosed are the Hanford Facility Dangerous Waste Part A Permit Application (Part A), Form 3s, for the PUREX Plant, Revision 6, and for the PUREX Storage Tunnels, Revision 3. The two Part A, Form 3s, have been revised to support new mixed waste storage activities associated with the transport and storage of mixed waste in the PUREX Storage Tunnels and PUREX Plant from various onsite sources. The PUREX Plant will only serve as a temporary staging area for waste accumulation prior to storage in the PUREX Storage Tunnels.

The primary revision to both the PUREX Plant and PUREX Storage Tunnels Part A, Form 3s, has been the addition of Dangerous Waste Numbers to existing Process Code S05 (storage-miscellaneous). These Dangerous Waste Numbers for the PUREX Plant include D005 (barium), D010 (selenium), D011 (silver) and WT02 (State-only, toxic for light mineral oil) and D005 (barium), D010 (selenium), and WT02 (State-only, toxic for light mineral oil) for the PUREX Storage Tunnels. Also, language has been included that better reflects the storage activities associated with current and anticipated PUREX Plant and PUREX Storage Tunnels operations.

In addition, State-only designations WT02 (toxic, dangerous waste) and WP01 (persistent, extremely hazardous waste) for the fluorothene polymer presently stored in Tunnel Number 2, have been removed. The removal of these designations is based upon the solid nature of the fluorothene polymer which precludes the ability to ingest this material.



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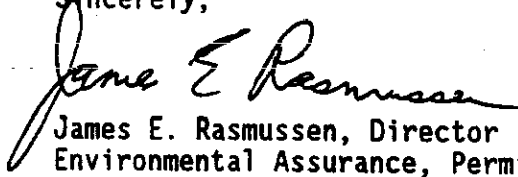
Messrs. Jaraysi and Sherwood
95-PCA-440

-2-


These changes to the Part A, Form 3s, were made in compliance with Washington Administrative Code 173-303. This regulation requires the submittal of a revised Part A, Form 3, that addresses the identification of a previously unidentified dangerous waste to be stored at a treatment, storage, and/or disposal (TSD) unit under interim status.

Should you have any questions regarding the PUREX Plant and PUREX Storage Tunnels Part A, Form 3s, please contact Mr. C. E. Clark of the U.S. Department of Energy, Richland Operations Office on (509) 376-9333 or Mr. R. C. Bowman of the Westinghouse Hanford Company on (509) 376-4876.

Sincerely,


James E. Rasmussen, Director
Environmental Assurance, Permits,
and Policy Division
DOE Richland Operations Office

EAP:EMM


William T. Dixon, Director
Environmental Services
Westinghouse Hanford Company

Enclosures:

1. Hanford Facility Dangerous Waste
Part A Permit Application,
Form 3, for the PUREX Plant,
Revision 6
2. Hanford Facility Dangerous Waste
Part A Permit Application,
Form 3, for the PUREX Storage
Tunnels, Revision 3

cc w/encs:

Administrative Record
EDMC, H6-08
D. Duncan EPA
R. Bowman, WHC
R. Jim, YIN
R. Julian, Ecology
D. Lundstorm, Ecology
D. Powauke, NPT
S. Price, WHC
J. Wallace, Ecology
J. Wilkinson, CTUIR

cc w/o encs:

W. Dixon, WHC

9513381.2380

ENCLOSURE 1

9513381.2381

Please print or type in the unshaded areas only
(fill-in areas are spaced for elite type, i.e., 12 character/inch).

FORM 3	DANGEROUS WASTE PERMIT APPLICATION	1. EPA/STATE I.D. NUMBER <div style="border: 1px solid black; padding: 2px; display: inline-block;">WA7890008967</div>
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FOR OFFICIAL USE ONLY

APPLICATION APPROVED	DATE RECEIVED (mo., day, & yr.)	COMMENTS

II. FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below (mark one box only) to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA/STATE I.D. Number, or if this is a revised application, enter your facility's EPA/STATE I.D. Number in Section I above.

A. FIRST APPLICATION (place an "X" below and provide the appropriate date)

☐ 1. EXISTING FACILITY (See instructions for definition of "existing" facility. Complete item below.)☐ 2. NEW FACILITY (Complete item below)

MO.	DAY	YR.
01	15	56

FOR EXISTING FACILITIES, PROVIDE THE DATE (mo., day, & yr.) OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED (use the boxes to the left)

MO.	DAY	YR.

FOR NEW FACILITIES, PROVIDE THE DATE (mo., day, & yr.) OPERATION BEGAN OR IS EXPECTED TO BEGIN

B. REVISED APPLICATION (place an "X" below and complete Section I above)

☒ 1. FACILITY HAS AN INTERIM STATUS PERMIT☐ 2. FACILITY HAS A FINAL PERMIT

III. PROCESSES - CODES AND CAPACITIES

A. PROCESS CODE - Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process (including its design capacity) in the space provided on the (Section III-C).

B. PROCESS DESIGN CAPACITY - For each code entered in column A enter the capacity of the process.

1. AMOUNT - Enter the amount.

2. UNIT OF MEASURE - For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY	PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:			Treatment:		
CONTAINER (barrel, drum, etc)	S01	GALLONS OR LITERS	TANK	T01	GALLONS PER DAY OR LITERS PER DAY
TANK	S02	GALLONS OR LITERS	SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS	INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR; GALLONS PER HOUR OR LITERS PER HOUR
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS			
Disposal:			OTHER (Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Section III-C.)		
INJECTION WELL	D00	GALLONS OR LITERS			
LANDFILL	D01	ACRE-Feet (the volume that would cover one acre to a depth of one foot) OR HECTARE-METER			
LAND APPLICATION	D02	ACRES OR HECTARES			
OCEAN DISPOSAL	D03	GALLONS PER DAY OR LITERS PER DAY			
SURFACE IMPOUNDMENT	D04	GALLONS OR LITERS			
UNIT OF MEASURE CODE			UNIT OF MEASURE CODE		
GALLONS	G	LITERS PER DAY	ACRE-Feet	A	
LITERS	L	TONS PER HOUR	HECTARE-METER	F	
CUBIC YARDS	Y	METRIC TONS PER HOUR	ACRES	B	
CUBIC METERS	C	GALLONS PER HOUR	HECTARES	Q	
GALLONS PER DAY	U	LITERS PER HOUR			

EXAMPLE FOR COMPLETING SECTION III (shown in line numbers X-1 and X-2 below): A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

B. PROCESS DESIGN CAPACITY											
LINE NUMBER	A. PROCESS CODE (from list above)	1. AMOUNT (specify)		2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY	LINE NUMBER	A. PROCESS CODE (from list above)	1. AMOUNT (specify)		2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
X-1	S 0 2	200		G		5					
X-2	T 0 3	20		E		6					
1	T 0 1	392,167		V		7					
2	S 0 2	1,239,733		L		8					
3	S 0 5	434		C		9					
4						10					

Continued from the front.

III. PROCESSES (continued)

C. SPACE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESS (code "T04"). FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

REFER TO PAGE 3

IV. DESCRIPTION OF DANGEROUS WASTES

A. DANGEROUS WASTE NUMBER - Enter the four digit number from Chapter 173-303 WAC for each listed dangerous waste you will handle. If you handle dangerous wastes which are not listed in Chapter 173-303 WAC, enter the four digit number(s) that describes the characteristic and/or the toxic contaminants of those dangerous wastes.

B. ESTIMATED ANNUAL QUANTITY - For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non-listed waste(s) that will be handled which possess that characteristic or contaminant.

C. UNIT OF MEASURE - For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

D. PROCESSES

1. PROCESS CODES:

For listed dangerous waste: For each listed dangerous waste entered in column A select the code(s) from the list of process codes contained in Section III to indicate how the waste will be stored, treated, and/or disposed of at the facility.

For non-listed dangerous wastes: For each characteristic or toxic contaminant entered in Column A, select the code(s) from the list of process codes contained in Section III to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed dangerous wastes that possess that characteristic or toxic contaminant.

Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code(s).

2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

NOTE: DANGEROUS WASTES DESCRIBED BY MORE THAN ONE DANGEROUS WASTE NUMBER - Dangerous wastes that can be described by more than one Waste Number shall be described on the form as follows:

1. Select one of the Dangerous Waste Numbers and enter it in column A. On the same line complete columns B, C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.

2. In column A of the next line enter the other Dangerous Waste Number that can be used to describe the waste. In column D(2) on that line enter "included with above" and make no other entries on that line.

3. Repeat step 2 for each other Dangerous Waste Number that can be used to describe the dangerous waste.

EXAMPLE FOR COMPLETING SECTION IV (shown in line numbers X-1, X-2, X-3, and X-4 below) - A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

LINE NO.	A. DANGEROUS WASTE NO. (enter code)				B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES									
							1. PROCESS CODES (enter)					2. PROCESS DESCRIPTION (If a code is not entered in D(1))				
X-1	K	0	5	4	900	P	T	0	3	D	8	0				
X-2	D	0	0	2	400	P	T	0	3	D	8	0				
X-3	D	0	0	1	100	P	T	0	3	D	8	0				
X-4	D	0	0	2			T	0	3	D	8	0			included with above	

FORM 3 DANGEROUS WASTE PERMIT APPLICATION

U.S. ENVIRONMENTAL PROTECTION AGENCY/STATE IDENTIFICATION NUMBER WA7890008967

Section III.C., Description of Process Codes Listed in Section III.A.

The Plutonium-Uranium Extraction (PUREX) Plant, constructed in 1956, is located in the southeast corner of the 200 East Area of the Hanford Facility. The PUREX Plant was used for the recovery of uranium and plutonium from irradiated reactor fuel. Liquid-liquid processes were used to separate the plutonium and uranium from fission products and to separate the plutonium from the uranium.

The PUREX Plant consists of the 202-A Building and various support structures. The 202-A Building is a reinforced concrete structure 306.3 meters (1,005 feet) long, 36.3 meters (119 feet) wide (at its maximum), and 30.5 meters (100 feet) high with approximately 12.2 meters (40 feet) of the height below grade. The 202-A Building consists of three main structural components: (1) a thick walled, concrete canyon containing remotely operated process equipment (in cells below grade); (2) the pipe and operating, sample, and storage galleries; and (3) an annex that includes offices, process control rooms, laboratories, and the building services.

The PUREX Plant is currently undergoing a transition phase where past process solutions will be either removed from the 202-A Building in bulk for treatment, storage, and/or disposal, or treated and stored until final disposition to the Double-Shell Tank (DST) Systems. Dangerous waste activities at the PUREX Plant include the treatment and storage of regulated materials that support the transition of this treatment, storage, and/or disposal unit. Also, the 202-A Building may receive and temporarily stage mixed waste from onsite sources prior to storage in the PUREX Storage Tunnels.

The following are treatment and storage processes for the PUREX Plant.

T01 Tank E5 [19,873 liter (5,250 gallon) design capacity] - mixed waste is treated with NaOH and NaNO_2 before sending the waste to the DST System.

The concentrator [E-F11; 9,804 liter (2,590 gallon) design capacity] and tank G7 [TK G7; 56,781 liter (15,000 gallon) design capacity]- Ammoniacal mixed waste was processed in the concentrator with the ammonia distillate going to the 216-A-36B Crib before September 1987. From September 1987 to March 1990, ammoniacal waste was collected in tank G7 and treated with NaOH and NaNO_2 before being transferred to the DST System. During PUREX Plant transition, the E-F11 may be used to minimize the volume of liquid waste sent to the DST System by evaporation of water from flush solutions (both regulated and nonregulated) with the distillate (nonregulated) being discharged to the atmosphere via the PUREX main stack (291-A-1). The concentrate generated in the E-F11 is treated with NaOH and NaNO_2 in tank F18 [19,797 liter (5,230 gallon) design capacity] or TK-G7 before transfer to the DST System. Tank G7 also will be used to treat the flush and other waste solutions before transferring them to the DST System during transition.

Section III.C.. Description of Process Codes (continued)

Tank F15 [19,419 liter (5,130 gallon) design capacity] and tank F16 [19,870 liter (5,249 gallon) design capacity] - The mixed waste may be sent to the E-F11 for volume reduction. Residual liquids are treated with NaOH and NaNO₂ in tanks F15, F16, or F18 before transfer to the DST System.

Tank F18 [19,797 liter (5,230 gallon) design capacity], tank U3 [31,124 liter (8,222 gallon) design capacity], and tank U4 [31,184 liter (8,238 gallon) design capacity] - The mixed waste is collected from all sections of the PUREX Plant (E-F11 bottoms, other vessels, sumps, sinks, drains, overflows, laboratory waste) and treated with NaOH and NaNO₂ before being transferred to the DST System. The total process design capacity for tank treatment is 392,167 liters (103,600 gallons) per day.

S02 Vessels storing mixed waste in the PUREX Plant are shown on the PUREX Plant Vessel Table (page 5 of 21), which includes the vessel identification (ID) number, tank location, and tank capacity. The total process design capacity for tank storage is 1,239,733 liters (327,503.5 gallons).

S05 The designation S05 (storage miscellaneous) has been used to indicate that the solid mixed waste on the canyon deck and in F-Cell is stored in a containment building subject to the requirements of 40 CFR 265, Subpart DD. The solid mixed waste on the canyon deck may consist of contaminated discarded canyon process equipment, jumpers (or isolated components thereof) or other material from various onsite sources. The solid mixed waste in F-Cell consists mainly of concrete and tank dunnage corrosion products. The process design capacity of the storage areas on the canyon deck and in F-Cell is 434 cubic meters (567 cubic yards).

PUREX PLANT VESSEL TABLE

VESSEL ID	LOCATION	CAPACITY (LITERS)
TK-D5	D Cell	19,851
TK-E5	E Cell	19,873
TK-E6	E Cell	19,813
TK-F3	F Cell	19,964
T-F5	F Cell	1,132
E-F11	F Cell	9,804
TK-F15	F Cell	19,419
TK-F16	F Cell	19,870
TK-F18	F Cell	19,798
TK-G1	G Cell	18,662
TK-G2	G Cell	7,064
T-G2	G Cell	8,248
TK-G5	G Cell	55,403
TK-G7	G Cell	56,781
TK-G8	G Cell	19,881
TK-H1	H Cell	19,593
T-H2	H Cell	7,003
E-H4	H Cell	10,137
TK-J1	J Cell	19,926
TK-J3	J Cell	19,911
T-J6	J Cell	6,057
T-J7	J Cell	3,146
TK-J21	J Cell	1,162
T-J22	J Cell	568
T-J23	J Cell	393
TK-K1	K Cell	19,828
T-K2	K Cell	5,194
T-K3	K Cell	6,507
TK-K6	K Cell	19,593
T-L2	L Cell	447
TK-L3	L Cell	234
T-L4	L Cell	1,987
TK-R1	R Cell	18,121
TK-R2	R Cell	6,746
T-R2	R Cell	8,282
TK-R7	R Cell	35,174
TK-U3	U Cell	31,124
TK-U4	U Cell	31,184
TK-P4	203-A	402,963
TK-40	211-A	247,357
TK-156	AMU	1,533
Total Capacity		1,239,733.00

For conversion, apply the following:
liters to gallons - multiply liters by 0.26417

Continued from page 2.

NOTE: Photocopy this page before completing if you have more than 26 wastes to list.

I.D. NUMBER (entered from page 1)

WA7890008887

IV. DESCRIPTION OF DANGEROUS WASTES (continued)

LINE	A. DANGEROUS WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES	
				1. PROCESS CODES (enter)	2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	WT01	29,937,096*	K	T01 S02	Treatment - Chemical/Storage - Tank
2	WT02				
3	WC02				
4	WP01				
5	WP02				
6	DO01				
7	through				
8	DO11				Included With Above
9	WT01	15,200*	K	S05	Storage - Miscellaneous
10	WT02				(Containment Building)
11	WC02				
12	DO05				
13	through				
14	DO08				
15	DO10				
16	DO11				Included With Above

* The estimated annual quantities of waste listed above represents the maximum quantities of solid dangerous waste currently treated and stored at the PUREX Plant. Future closure activities might necessitate an increase in excess of these estimates and a permit application revision could be pursued as required by dangerous waste regulations.

20					
21					
22					
23					
24					
25					
26					

Continued from the front.

IV. DESCRIPTION OF DANGEROUS WASTES (continued)

E. USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM SECTION D(1) ON PAGE 3.

Tank E5 containing (1) decladding waste consisting of NH_4F , $(\text{NH}_4)_2\text{ZrF}_6$, $(\text{NH}_4)_2\text{UF}_6$, and NH_4NO_3 ; (2) metathesis solutions consisting of KOH and KF ; or (3) metathesis rinse and miscellaneous flushes with similar chemical makeups. All streams are treated with NaOH to a pH greater than 12, which consists mainly of NaF , KF , UO_2 , ZrO_2 , NH_3 , NH_4OH , and NaNO_2 . During deactivation, waste and flush solutions will be treated to obtain a pH greater than 12 and $[\text{NO}_2]$ greater than 0.011 molar before transferring the waste to storage.

The concentrator (E-F11) bottoms, containing NH_4NO_3 and NH_4OH or nitric acid, are transferred to tank F18 or tank G7 and treated with NaOH and NaNO_2 .

Tanks F15 and F16 contain acid waste with HNO_3 and possibly $\text{Al}(\text{NO}_3)_3$, which is treated with NaOH and NaNO_2 .

Tank F18 and tanks U3 and U4 receive miscellaneous waste with a constantly changing composition consisting mainly of water and HNO_3 . Waste is treated with NaOH and NaNO_2 to a pH greater than 12.

All tanks (refer to PUREX Plant Vessel Table on page 5 of 21) may receive and store flush solutions. Waste might be concentrated in the E-F11 and/or treated with NaOH and NaNO_2 to a pH greater than 12.

The PUREX Plant containment building stores material that contains barium, cadmium, chromium, lead, silver, selenium and/or light mineral oil (WTO2) contained in oil absorbent material.

V. FACILITY DRAWING — Refer to attached drawing.

All existing facilities must include in the space provided on page 6 a scale drawing of the facility (see instructions for more detail).

VI. PHOTOGRAPHS — Refer to attached photographs.

All existing facilities must include photographs (aerial or ground-level) that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas (see instructions for more detail).

VII. FACILITY GEOGRAPHIC LOCATION

This information is provided on the attached drawings and photos.

LATITUDE (degrees, minutes, & seconds)

LONGITUDE (degrees, minutes, & seconds)

VIII. FACILITY OWNER

☒ A. If the facility owner is also the facility operator as listed in Section VII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

B. If the facility owner is not the facility operator as listed in Section VII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER

2. PHONE NO. (area code & no.)

3. STREET OR P.O. BOX

4. CITY OR TOWN

5. ST.

6. ZIP CODE

IX. OWNER CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

NAME (print or type)

John D. Wagoner, Manager
U.S. Department of Energy
Richland Operations Office

SIGNATURE

John D. Wagoner

DATE SIGNED

8/21/95

X. OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

NAME (print or type)

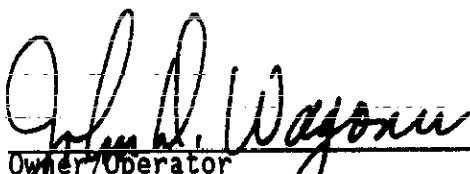
SIGNATURE

DATE SIGNED

SEE ATTACHMENT

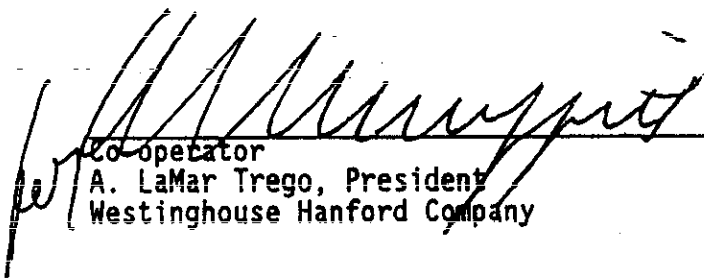
X. OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.



Owner/Operator
John D. Wagoner, Manager
U.S. Department of Energy
Richland Operations Office

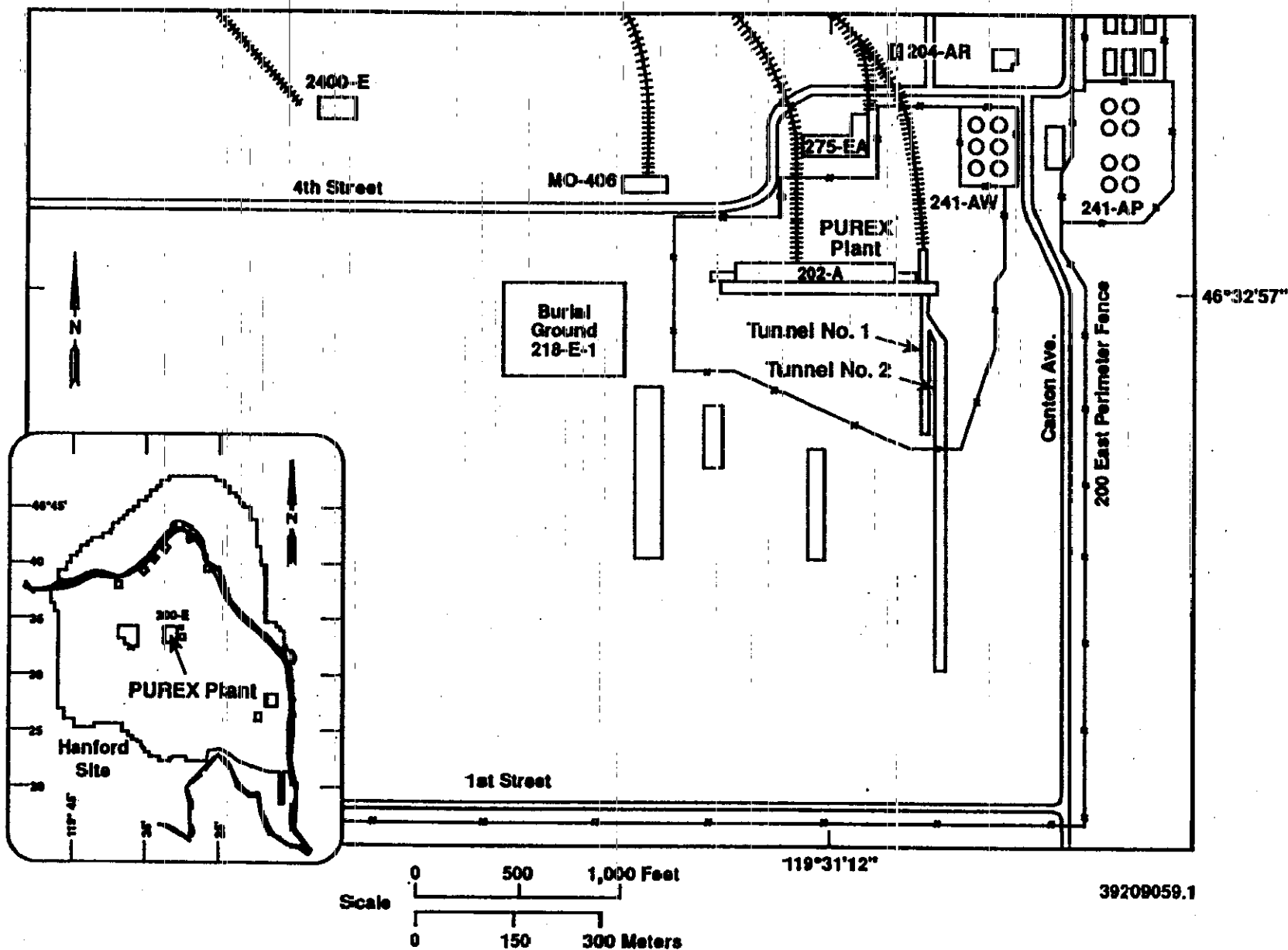
8/21/95
Date



Co-operator
A. LaMar Trego, President
Westinghouse Hanford Company

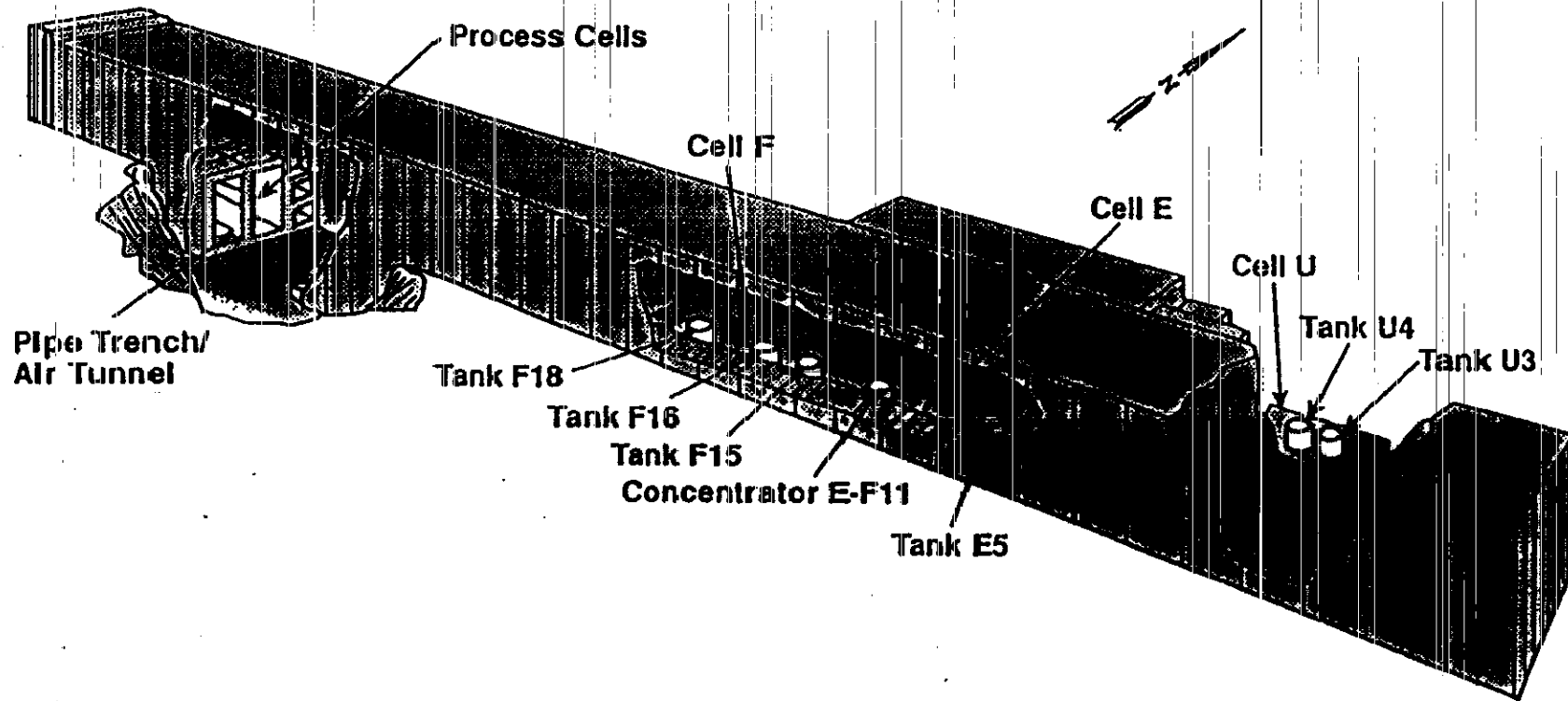
7/19/95
Date

PUREX Plant Site Plan



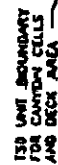
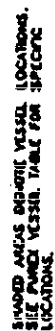
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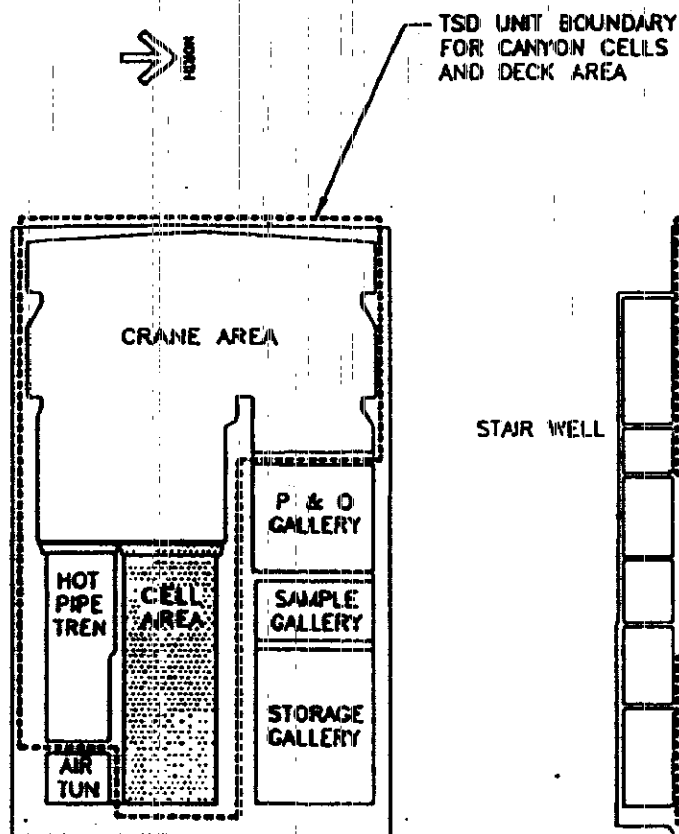
PUREX Plant Cutaway View (202-A Building)



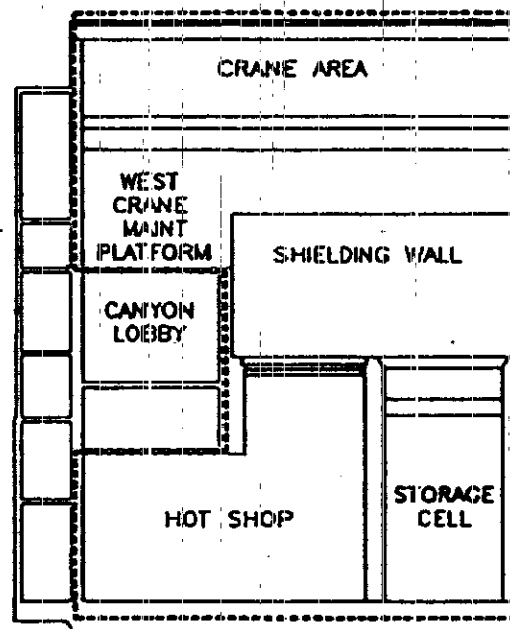
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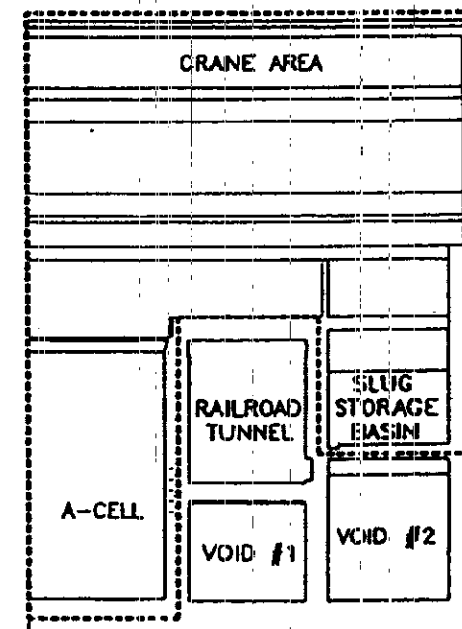




SECTION A-A



SECTION B-B



SECTION C-C

NOTE:

SHADED AREAS DENOTE VESSEL LOCATIONS.
SEE PUREX VESSEL TABLE FOR SPECIFIC
LOCATIONS.

9513381.2392

9513381.2393

ENCLOSURE 2

9513381.2394

Please print or type in the unshaded areas only
(fill-in areas are spaced for alpha type, i.e., 12 character/inch).FORM
3

DANGEROUS WASTE PERMIT APPLICATION

1. EPA/STATE I.D. NUMBER

W A 7 8 9 0 0 0 8 9 6 7

FOR OFFICIAL USE ONLY

APPLICATION APPROVED	DATE RECEIVED (mo., day, & yr.)	COMMENTS

II. FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below (mark one box only) to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA/STATE I.D. Number, or if this is a revised application, enter your facility's EPA/STATE I.D. Number in Section I above.

A. FIRST APPLICATION (place an "X" below and provide the appropriate data)

☐ 1. EXISTING FACILITY (See instructions for definition of "existing" facility. Complete item below.)☐ 2. NEW FACILITY (Complete item below)

MO.	DAY	YR.
06	15	56

FOR EXISTING FACILITIES, PROVIDE THE DATE (mo., day, & yr.) OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED (use the boxes to the left)

MO.	DAY	YR.

FOR NEW FACILITIES, PROVIDE THE DATE (mo., day, & yr.) OPERATION BEGAN OR IS EXPECTED TO BEGIN

B. REVISED APPLICATION (place an "X" below and complete Section I above)

☒ 1. FACILITY HAS AN INTERIM STATUS PERMIT☐ 2. FACILITY HAS A FINAL PERMIT

III. PROCESSES - CODES AND CAPACITIES

A. PROCESS CODE - Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process (including its design capacity) in the space provided on the (Section III-C).

B. PROCESS DESIGN CAPACITY - For each code entered in column A enter the capacity of the process.

1. AMOUNT - Enter the amount.

2. UNIT OF MEASURE - For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PRO- CESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY	PROCESS	PRO- CESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:			Treatment:		
CONTAINER (barrel, drum, etc)	S01	GALLONS OR LITERS	TANK	T01	GALLONS PER DAY OR LITERS PER DAY
TANK	S02	GALLONS OR LITERS	SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS	INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS			GALLONS PER HOUR OR LITERS PER HOUR
Disposal:					
INJECTION WELL	D80	GALLONS OR LITERS			
LANDFILL	D81	ACRE-Feet (the volume that would cover one acre to a depth of one foot) OR HECTARE-METER	OTHER (Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Section III-C.)	T04	GALLONS PER DAY OR LITERS PER DAY
LAND APPLICATION	D82	ACRES OR HECTARES			
OCEAN DISPOSAL	D83	GALLONS PER DAY OR LITERS PER DAY			
SURFACE IMPOUNDMENT	D84	GALLONS OR LITERS			
UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G	LITERS PER DAY	V	ACRE-Feet	A
LITERS	L	TONS PER HOUR	D	HECTARE-METER	F
CUBIC YARDS	Y	METRIC TONS PER HOUR	W	ACRES	B
CUBIC METERS	C	GALLONS PER HOUR	E	HECTARES	G
GALLONS PER DAY	U	LITERS PER HOUR	H		

EXAMPLE FOR COMPLETING SECTION III (shown in line numbers X-1 and X-2 below): A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

LINE NUMBER	A. PRO- CESS CODE (from list above)	B. PROCESS DESIGN CAPACITY			FOR OFFICIAL USE ONLY	LINE NUMBER	A. PRO- CESS CODE (from list above)	B. PROCESS DESIGN CAPACITY			FOR OFFICIAL USE ONLY
		1. AMOUNT (specify)	2. UNIT OF MEA- SURE (enter code)					1. AMOUNT (specify)	2. UNIT OF MEA- SURE (enter code)		
X-1	S 0 2	200	G			5					
X-2	T 0 3	20	E			6					
1	S 0 5	24,007	C			7					

* Process Code S05 is being used to designate the PUREX Storage Tunnels as a "Miscellaneous Unit" per 40 CFR 264, Subpart X.

4						10					
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Continued from the front.

III. PROCESSES (continued)

C. SPACE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESS (code "T04"). FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

S05

The PUREX Storage Tunnels are a miscellaneous unit (S05) used for storage of mixed waste subject to the requirements of 40 CFR 264, Subpart X. The two tunnels are designed to store discarded equipment. Since being placed into service, mixed waste has been stored in the tunnels on railcars. Not all material stored in the tunnels contains mixed waste.

The construction of Tunnel 1 was completed in 1956. The tunnel is approximately 5.8 meters (19 feet) wide by 6.7 meters (22 feet) high by 107 meters (350 feet) long and provides storage space for eight railcars. Between June 1960 and January 1965, all eight railcar positions were filled and the tunnel was subsequently sealed. The combined volume of the equipment stored in Tunnel 1 is approximately 596 cubic meters (780 cubic yards). The maximum process design capacity for storage in Tunnel 1 is approximately 4,129 cubic meters (5,400 cubic yards).

The construction of Tunnel 2 was completed in 1964. Tunnel 2 is approximately 5.8 meters (19 feet) wide by 6.7 meters (22 feet) high by 512 meters (1,680 feet) long and provides storage space for 40 railcars. The first railcar was placed in Tunnel 2 in December 1967 and as of June 1995, 21 railcars have been placed in the tunnel. The combined volume of equipment stored on the 21 railcars presently in Tunnel 2 is approximately 1,797 cubic meters (2,350 cubic yards). The maximum process design capacity for storage in Tunnel 2 is approximately 19,878 cubic meters (26,000 cubic yards).

IV. DESCRIPTION OF DANGEROUS WASTES

A. DANGEROUS WASTE NUMBER - Enter the four digit number from Chapter 173-303 WAC for each listed dangerous waste you will handle. If you handle dangerous wastes which are not listed in Chapter 173-303 WAC, enter the four digit number(s) that describes the characteristics and/or the toxic contaminants of these dangerous wastes.

B. ESTIMATED ANNUAL QUANTITY - For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non-listed waste(s) that will be handled which possess that characteristic or contaminant.

C. UNIT OF MEASURE - For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

D. PROCESSES

1. PROCESS CODES:

For listed dangerous waste: For each listed dangerous waste entered in column A select the code(s) from the list of process codes contained in Section III to indicate how the waste will be stored, treated, and/or disposed of at the facility.

For non-listed dangerous wastes: For each characteristic or toxic contaminant entered in Column A, select the code(s) from the list of process codes contained in Section III to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed dangerous wastes that possess that characteristic or toxic contaminant.

Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of Item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code(s).

2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

NOTE: DANGEROUS WASTES DESCRIBED BY MORE THAN ONE DANGEROUS WASTE NUMBER - Dangerous wastes that can be described by more than one Waste Number shall be described on the form as follows:

1. Select one of the Dangerous Waste Numbers and enter it in column A. On the same line complete columns B, C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
2. In column A of the next line enter the other Dangerous Waste Number that can be used to describe the waste. In column D(2) on that line enter "included with above" and make no other entries on that line.
3. Repeat step 2 for each other Dangerous Waste Number that can be used to describe the dangerous waste.

EXAMPLE FOR COMPLETING SECTION IV (shown in line numbers X-1, X-2, X-3, and X-4 below) - A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

LINE	A. DANGEROUS WASTE NO. (enter code)				B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES	
							1. PROCESS CODES (enter)	2. PROCESS DESCRIPTION (if a code is not entered in D(1))
X-1	K	0	8	4	900	P	T 0 3 D 8 0	
X-2	D	0	0	2	400	P	T 0 3 D 8 0	
X-3	D	0	0	1	100	P	T 0 3 D 8 0	
X-4	D	0	0	2			T 0 3 D 8 0	included with above

9513381.2396

Continued from page 2.

NOTE: Photocopy this page before completing if you have more than 26 wastes to list.

LD. NUMBER (entered from page 1)

W A 7 8 9 0 0 0 8 8 6 7

IV. DESCRIPTION OF DANGEROUS WASTES (continued)

LINE NO.	A. DANGEROUS WASTE NO. (enter code)				B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES									
	1. PROCESS CODES (enter)						2. PROCESS DESCRIPTION (if a code is not entered in D41)									
1	D	0	0	5	454*	K	S05									Storage - Miscellaneous
2	D	0	0	6	454*											
3	W	C	0	2												
4	W	T	0	2												
5	D	0	0	7	454*											
6	D	0	0	8	2,722*											
7	D	0	0	9	45*											
8	D	0	1	0	454*											
9	D	0	1	1	680*											
10	D	0	0	1												
11	W	T	0	2	454*											Included With Above
12																

* The estimated annual quantity of waste listed above represent the maximum quantity of waste placed in either tunnel in a given year.

15																
16																
17																
18																
19																
20																
21																
22																
23																
24																
25																
26																

Continued from the front.

IV. DESCRIPTION OF DANGEROUS WASTES (continued)

E. USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM SECTION D(1) ON PAGE 3.

The waste stored in the tunnels includes barium (D005), chromium (D007), cadmium (D006), lead (D008), mercury (D009), selenium (D010), silver (D011), and light mineral oil contained in oil absorption material (WT02). The silver is predominately in the form of salts and are considered ignitable (D001) because of the presence of silver nitrate (AgNO_3). The dangerous waste may be considered toxic, dangerous waste (WT02) and/or carcinogenic, dangerous waste (WC02).

V. FACILITY DRAWING Refer to attached drawing.

All existing facilities must include in the space provided on page 5 a scale drawing of the facility (see instructions for more detail).

VI. PHOTOGRAPHS Refer to attached photographs.

All existing facilities must include photographs (aerial or ground-level) that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas (see instructions for more detail).

VII. FACILITY GEOGRAPHIC LOCATION This information is provided on the attached drawings and photos.

LATITUDE (degrees, minutes, & seconds)

LONGITUDE (degrees, minutes, & seconds)

VIII. FACILITY OWNER

☒ A. If the facility owner is also the facility operator as listed in Section VII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

B. If the facility owner is not the facility operator as listed in Section VII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER

2. PHONE NO. (area code & no.)

3. STREET OR P.O. BOX

4. CITY OR TOWN

5. ST.

6. ZIP CODE

IX. OWNER CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

NAME (print or type)

John D. Wagoner, Manager
U.S. Department of Energy
Richland Operations Office

SIGNATURE

John D. Wagoner

DATE SIGNED

8/21/95

X. OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

NAME (print or type)

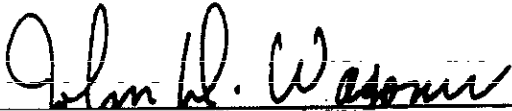
SEE ATTACHMENT

SIGNATURE

DATE SIGNED

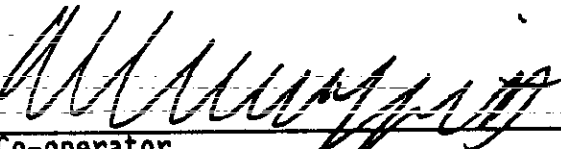
X. OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.



Owner/Operator
John D. Wagoner, Manager
U.S. Department of Energy
Richland Operations Office

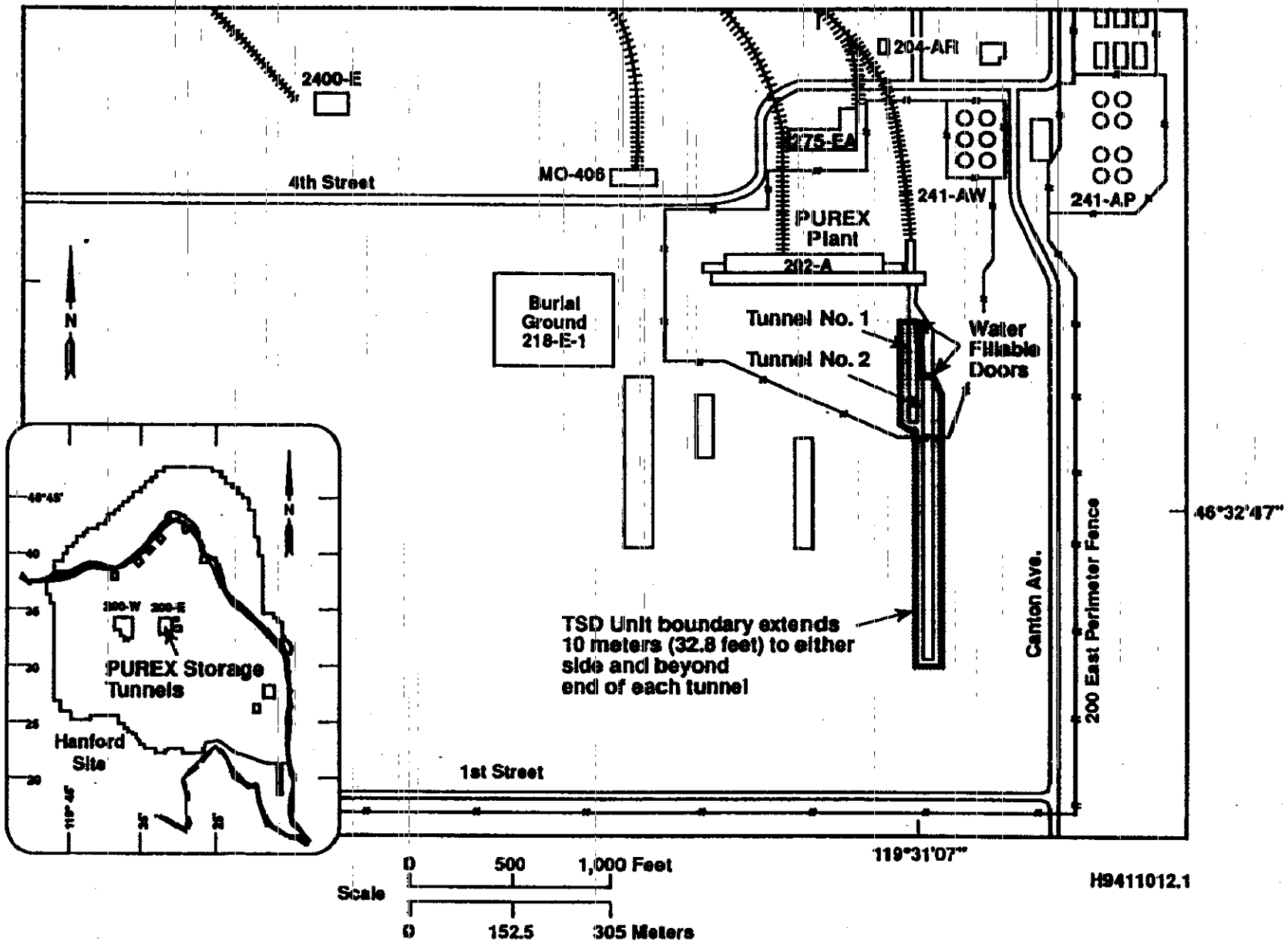
8/21/95
Date



Co-operator
A. LaMar Trego, President
Westinghouse Hanford Company

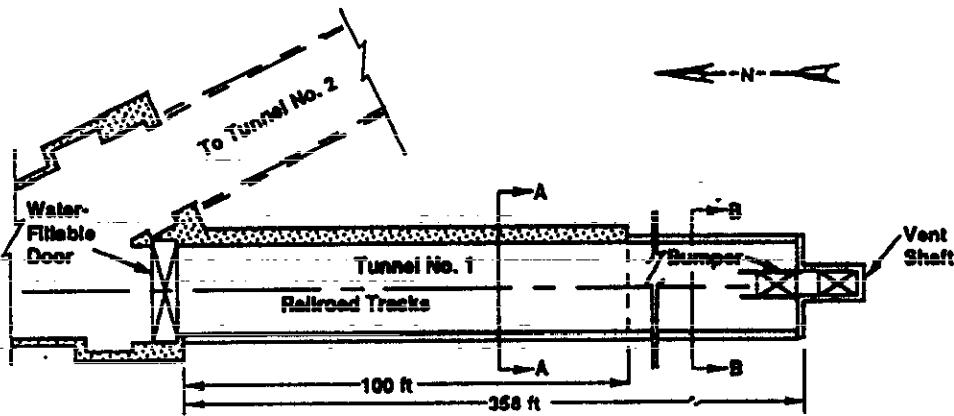
7/19/95
Date

PUREX Storage Tunnels Site Plan

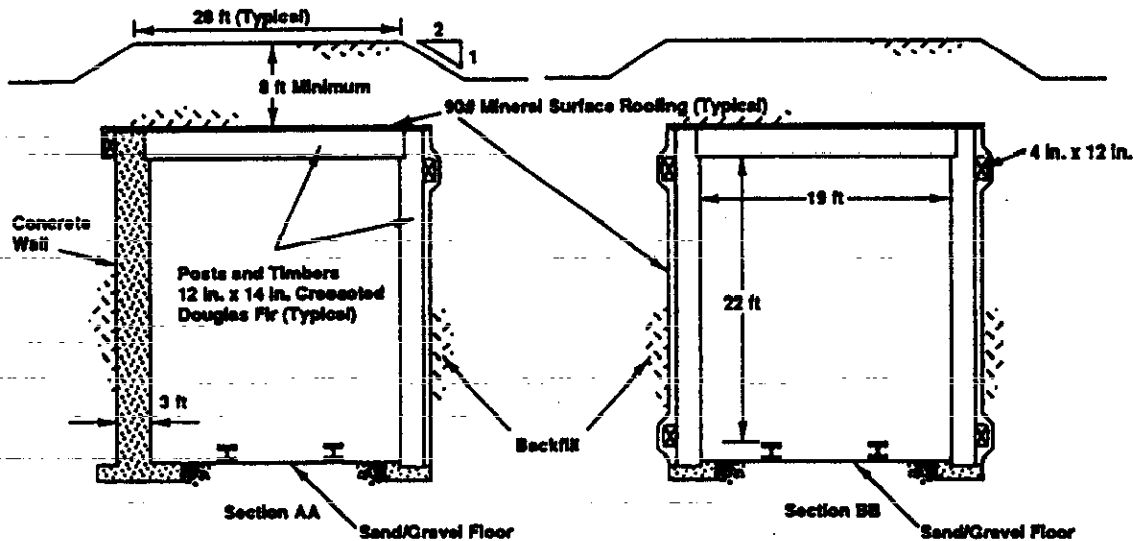


9510381.2399

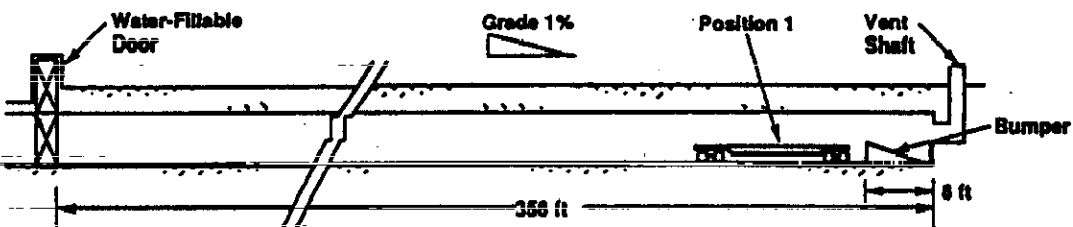
PUREX TUNNEL NO. 1 - DETAILS



Tunnel No. 1 - Plan View



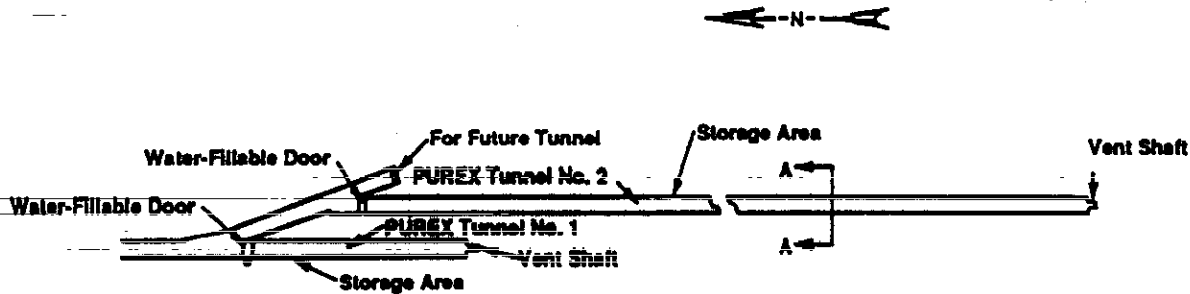
PUREX Tunnel No. 1 - Section Views



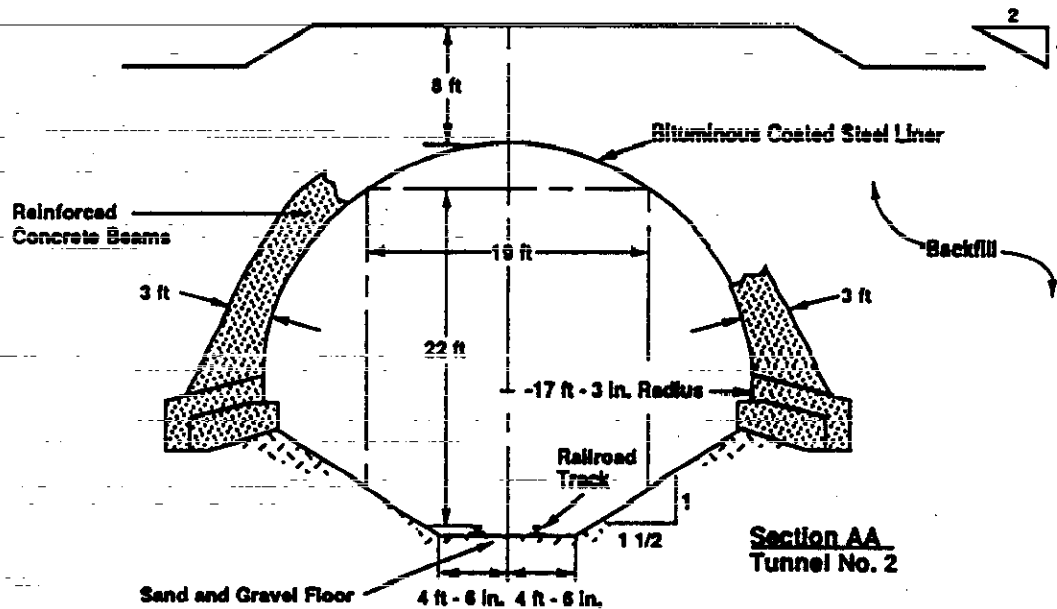
PUREX Tunnel No. 1 - Elevation View

78910032.2

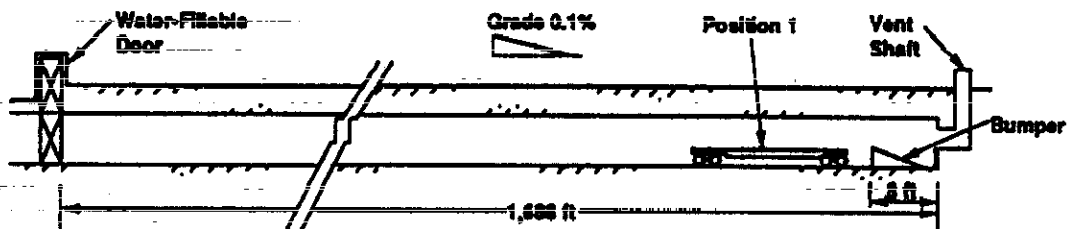
PUREX TUNNEL NO. 2 - DETAILS



PUREX Tunnels - Plan View



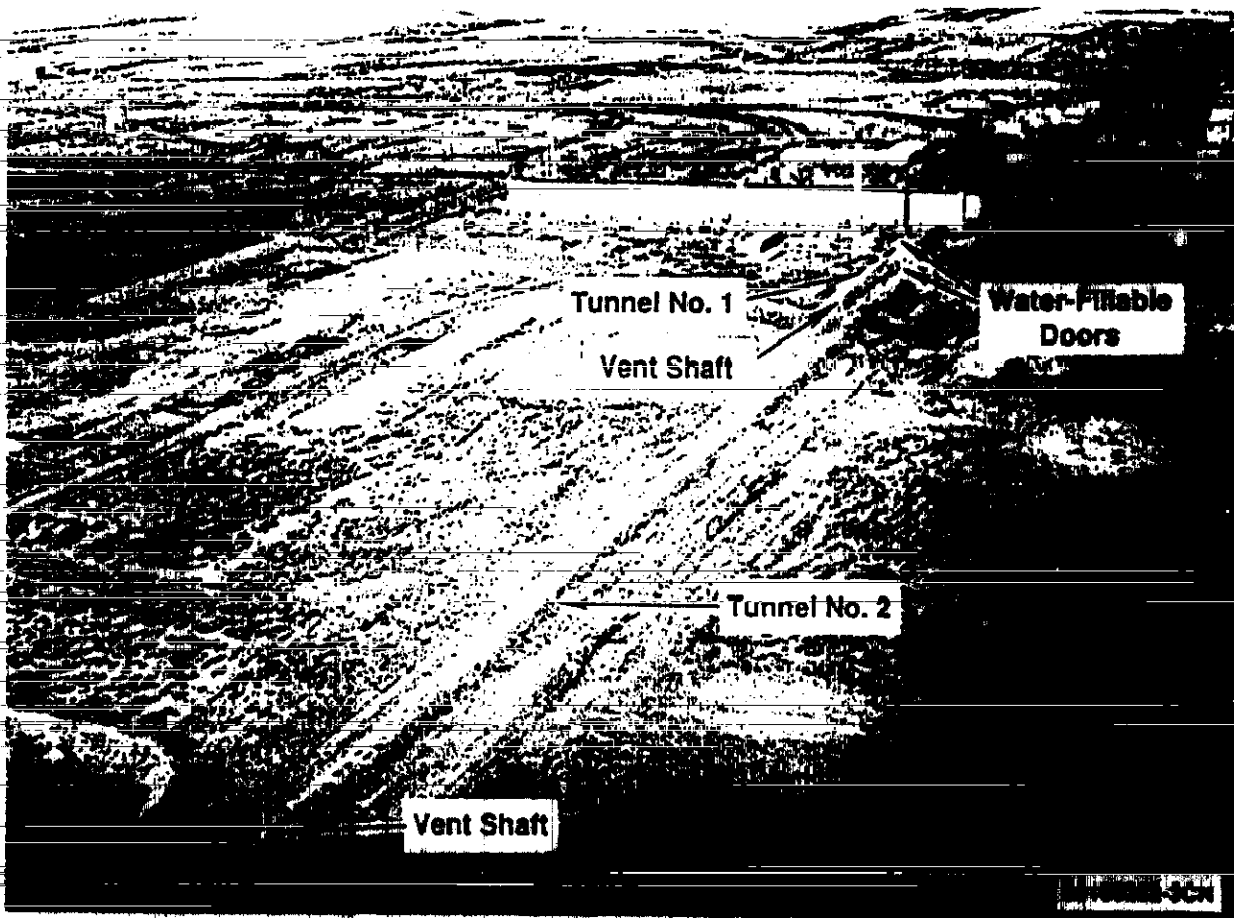
Section AA
Tunnel No. 2



PUREX Tunnel No. 2 - Elevation View

75510032.1

PUREX STORAGE TUNNELS



46°32'47"
119°31'07"

89100252-3CN
(PHOTO TAKEN 1989)

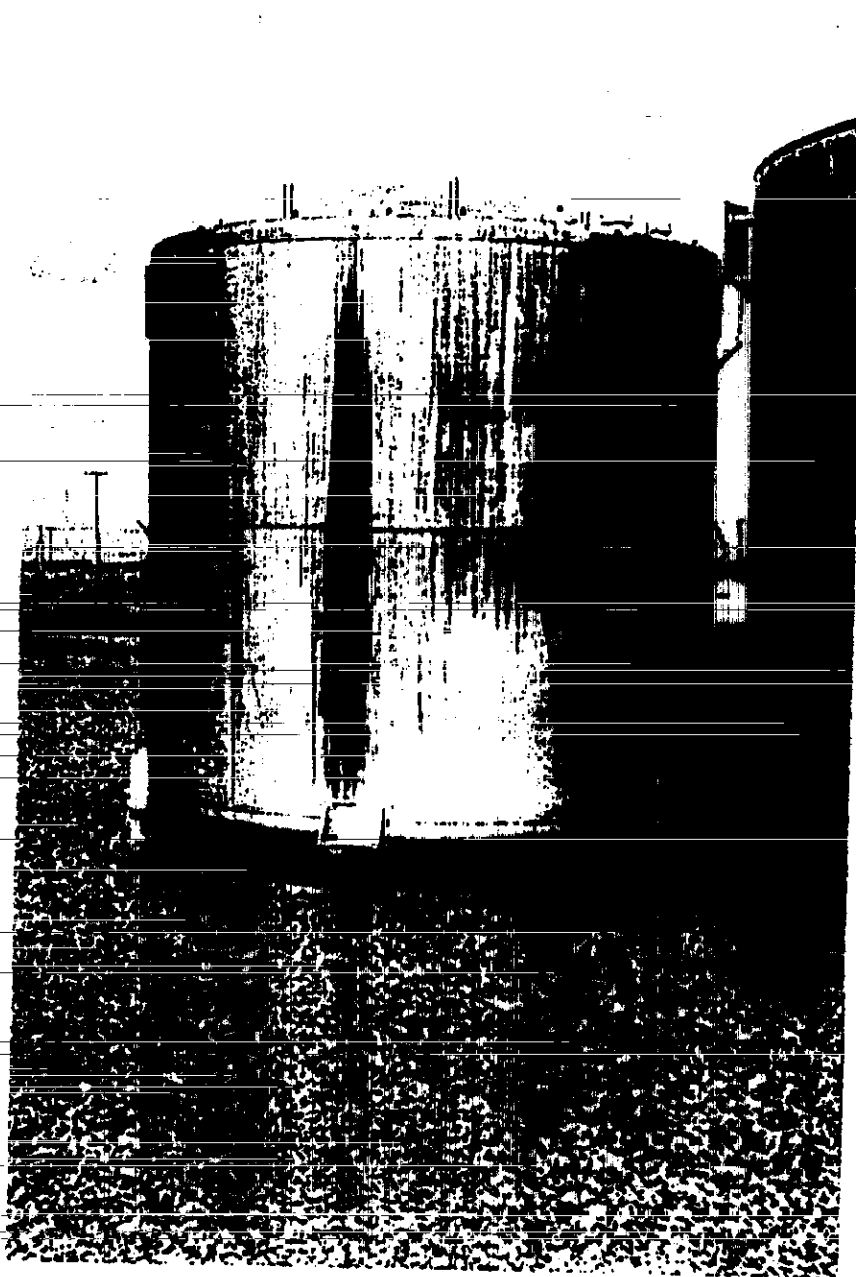
PUREX PLANT (SOUTH SIDE)



46°32'57"
119°31'12"

8706243-4CH
(PHOTO TAKEN 1987)

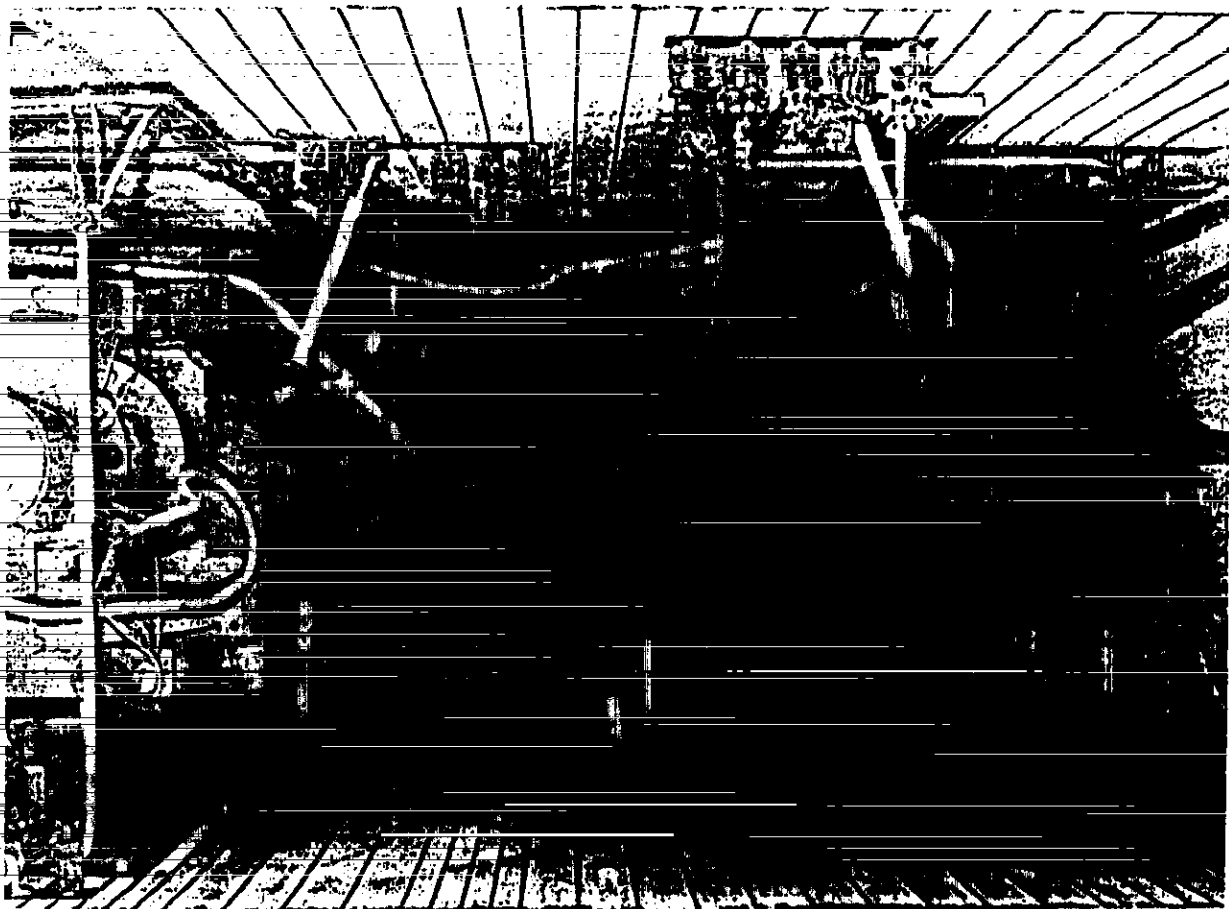
**STANDARD 5,000-GALLON
TANK (TYPICAL OF E5, F15, F16,
AND F18)**



8706243-5CN
(PHOTO TAKEN 1987)

TANK E5

Pipe Trench Wall - Top View

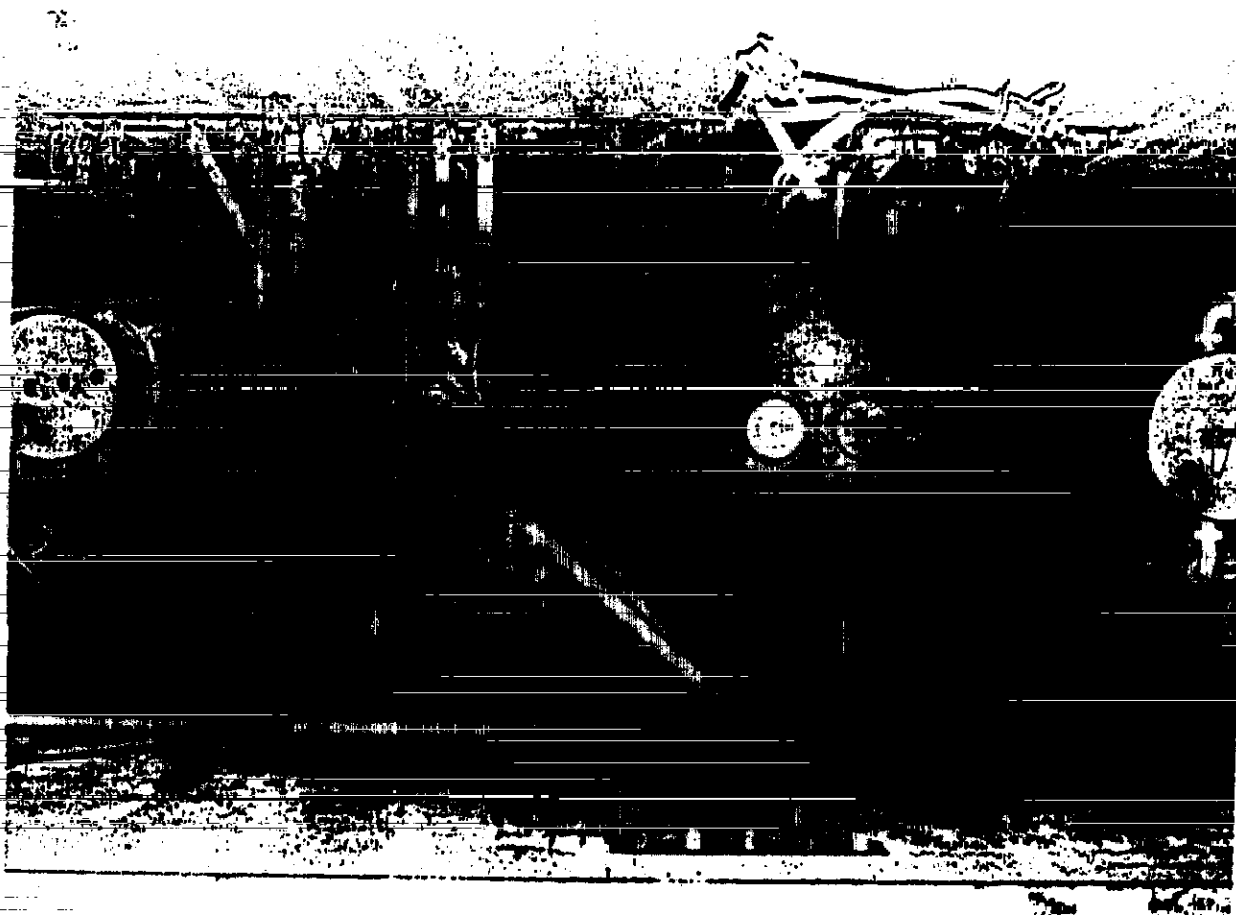


46°32'46"
119°07'58"

099948-38CN
(PHOTO TAKEN 1982)

TANK F15 AND TANK F16

Pipe Trench Wall - Top View

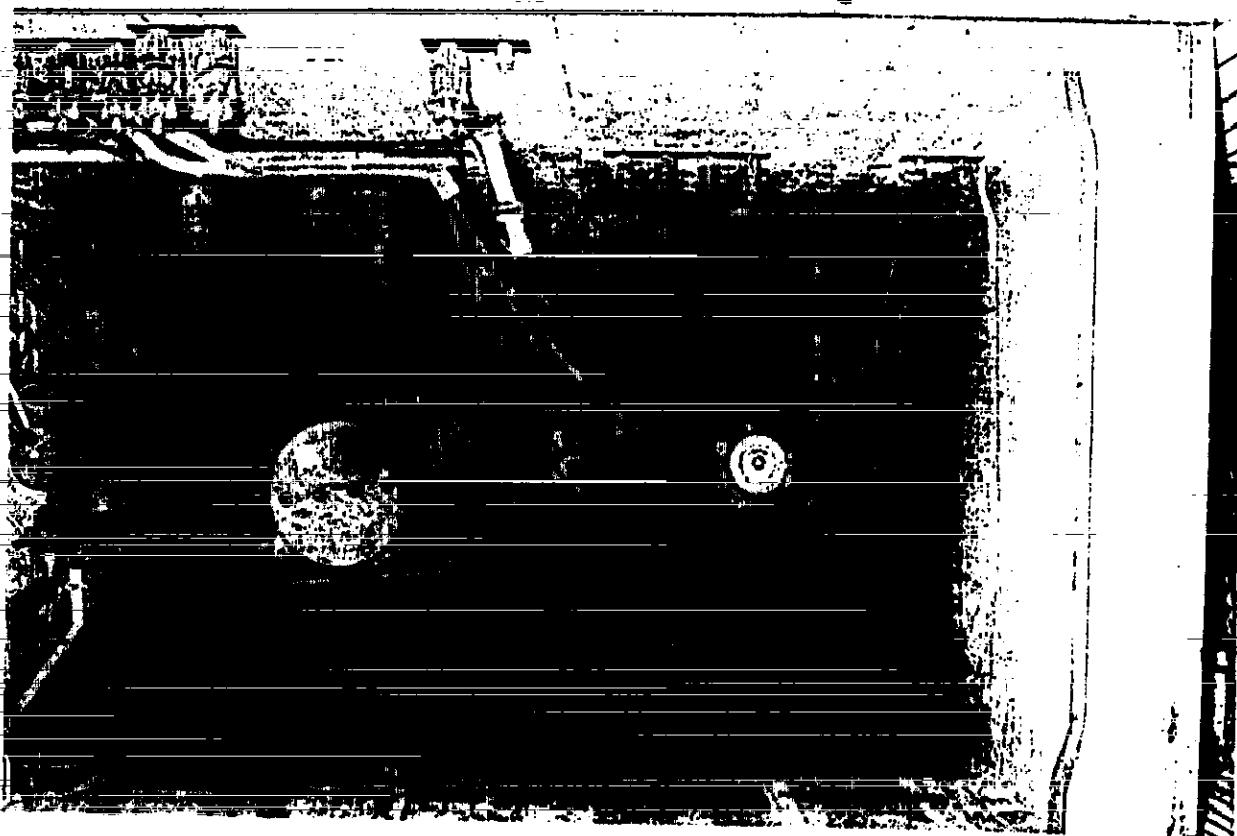


46°32'46"
119°08'00"

099948-71CN
(PHOTO TAKEN 1982)

TANK F18

Pipe Trench Wall - Top View



46°32'46"
119°08'01"

099948-74CM
(PHOTO TAKEN 1982)

E-F11 CONCENTRATOR



8706243-8CH
(PHOTO TAKEN 1987)

E-F11 CONCENTRATOR

Pipe Trench Wall - Top View



46°32'46"
119°07'59"

099948-64CN
(PHOTO TAKEN 1982)

U CELL

Top of Tank U3 (Typical of Tank U4)



46°32'48"
119°07'56"

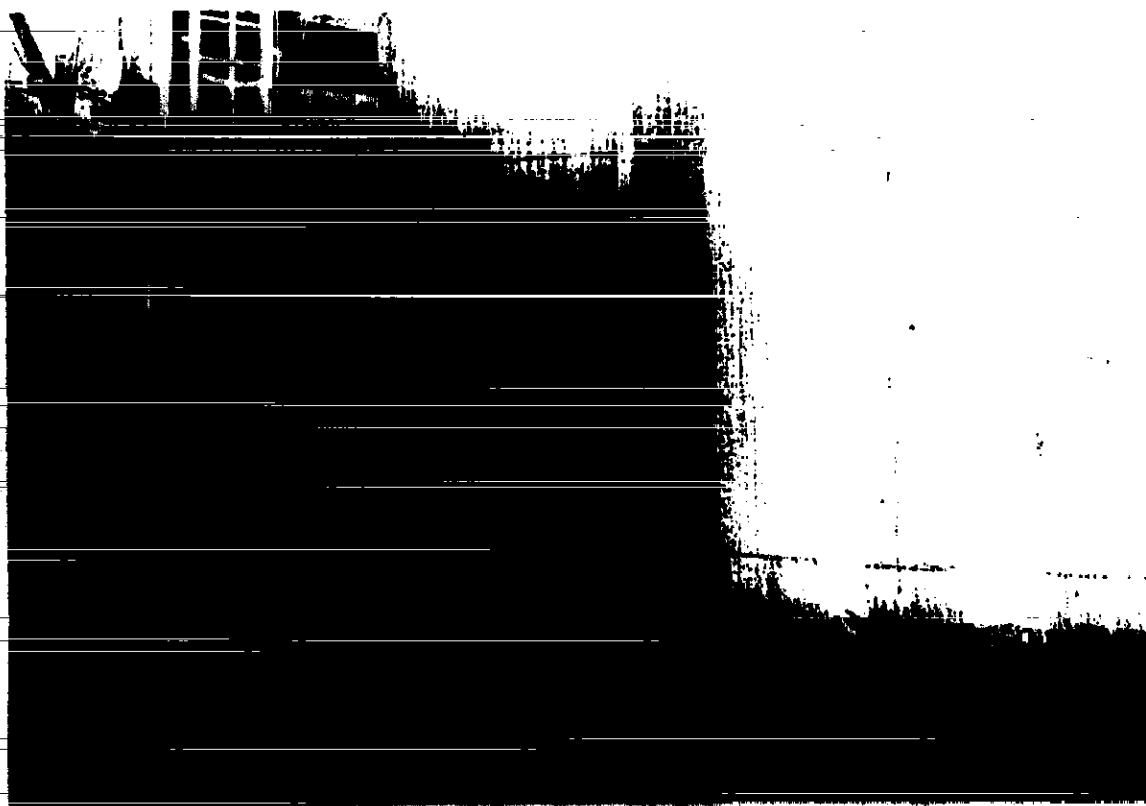
92102839-10CM
(PHOTO TAKEN 1992)

U CELL

Bottom of Tanks

Tank U3

Tank U4

46°32'48"
119°07'56"

92102839-7CN

(PHOTO TAKEN 1992)